

Selected Nanoscience-related Publications
THOMAS VOGT

Pressure in Nanopores:

“Non-framework cation migration and irreversible pressure-induced hydration in a zeolite.”

Yongjae Lee, Thomas Vogt, Joseph A. Hriljac, John B. Parise, Jonathan C. Hanson, and Sun Jin Kim
Nature 420, 485-489 (2002)

“Pressure-induced phase transitions and templating effect in 3D organic-inorganic hybrid perovskites.”

Yongjae Lee, David B. Mitzi, Paris W. Barnes, and Thomas Vogt
Phys. Rev. B Rapid Communications (submitted)

“Pressure-induced cation migration and volume expansion in the defect pyrochlores ANbWO_6 ($\text{A}=\text{NH}_4^+$, Rb^+ , H^+ , K^+)

Paris W. Barnes, Patrick M. Woodward, Yongjae Lee, Thomas Vogt, and Joseph A. Hriljac
J. Am. Chem. Soc. (accepted)

“Pressure-induced hydration at 0.6 GPa in a synthetic gallosilicate zeolite.”

Yongjae Lee, Thomas Vogt, Joseph A. Hriljac, Sun Jin Kim, Jonathan C. Hanson
J. Am. Chem. Soc. (accepted)

“Discovery of a rhombohedral form of the Li-exchanged aluminogermanate zeolite RHO and its pressure-, temperature-, and composition-induced phase transitions.”

Yongjae Lee, Thomas Vogt, Joseph A. Hriljac, and John B. Parise
Chem. Mater. 14, 3501-3508 (2002)

“Phase transition of zeolite RHO at high-pressure.”

Lee, Yongjae, Hriljac, Joseph A., Vogt, Thomas, Parise, John B.,
Edmondson, Michael J., Anderson, Paul A., Corbin, David R., and Nagar, Takaya.
J. Amer. Chem. Soc. 123, 8418-8419 (2001)

“First structural investigation of a super-hydrated zeolite.”

Lee, Yongjae, Hriljac, Joseph A., Vogt, Thomas, Parise, John B., and Artioli,
Gilberto.
J. Amer. Chem. Soc. 123, 12732-12733 (2001)

“Pressure-induced volume expansion of zeolites in the natrolite family.”

Y. Lee, T. Vogt, J.A. Hriljac, J.B. Parise, G. Artioli
J. Am. Chem. Soc. 124, 5466-5475 (2002)

Giant Dielectric Materials

“Charge transfer in the high dielectric constant materials $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ and $\text{CdCu}_3\text{Ti}_4\text{O}_{12}$.”

C.C. Homes, T. Vogt, S.M. Shapiro, W. Si, S. Wakimoto, and M.A. Subramanian
Phys. Rev. B 67, 092106 (2003)

“Optical response of high-dielectric-constant perovskite-related oxide.”

C.C. Homes, T. Vogt, S.M. Shapiro, S. Wakimoto, A.P. Ramirez
Science 293, 673-676 (2001)

“Temperature dependent total scattering structural study of $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$.”

E.S. Božin, V. Petkov, P.W. Barnes, P.M. Woodward, T. Vogt, S.D. Mahanti, and
S.J.L. Billinge
Phys. Rev. B (submitted)

"Giant dielectric constant response in a copper-titanate"

A.P. Ramirez, M.A. Subramanian, M. Gardel, G. Blumberg, D. Li,
T. Vogt, S.M. Shapiro
Solid State Comm. 115, 217-220 (2000)

Nanocrystallography, PDF studies

“Structure of intercalated Cs in zeolite ITQ-4: an array of metal ions and correlated electrons confined in a pseudo-1D nanoporous host.”

V. Petkov, S.J.L. Billinge, T. Vogt, A.S. Ichimura, and J.L. Dye
Phys. Rev. Lett. 89, 075502 (2002)

“Structure of nanocrystalline materials using atomic pair distribution function analysis: study of LiMoS_2 .”

Petkov, V., Billinge, S.J.L., Larson, P., Mahanti, S.D., Vogt, T., Rangan, K.K., and Kanatzidis, M.G.
Phys. Rev. B 65, 092105 (2002).

“Structure of $\text{V}_2\text{O}_5 \cdot n\text{H}_2\text{O}$ xerogel by the atomic pair distribution function technique.”

V. Petkov, E. Bozin, S.J.L. Billinge, P.N. Trikalitis, M.G. Kanatzidis, T. Vogt
J. Am. Chem. Soc. 124, 10157-10162 (2002).

“Chemical short range order obtained from the atomic pair distribution function.”

Th. Proffen, V. Petkov, S.J.L. Billinge, T. Vogt
Z. Kristallogr. 216, 1-4 (2001)

Miscellaneous

“Properties of Li nanocomposite electrode materials prepared via hydrogen-driven, solid-state, metallurgical reactions.”

Reilly, J.J., Johnson, J.R., Vogt, T., Adzic, G.D., Zhu, Y., and McBreen, J.
J. Electrochem. Soc. 148, A636-A641 (2001).

"Structural evolution of thermal-sprayed yttria-stabilized ZrO₂ thermal barrier
coatings with annealing - A neutron diffraction study."

T. Vogt, B.A. Hunter, J. Thornton
J. of Amer. Ceram. Soc. 84, 678-680 (2001)